

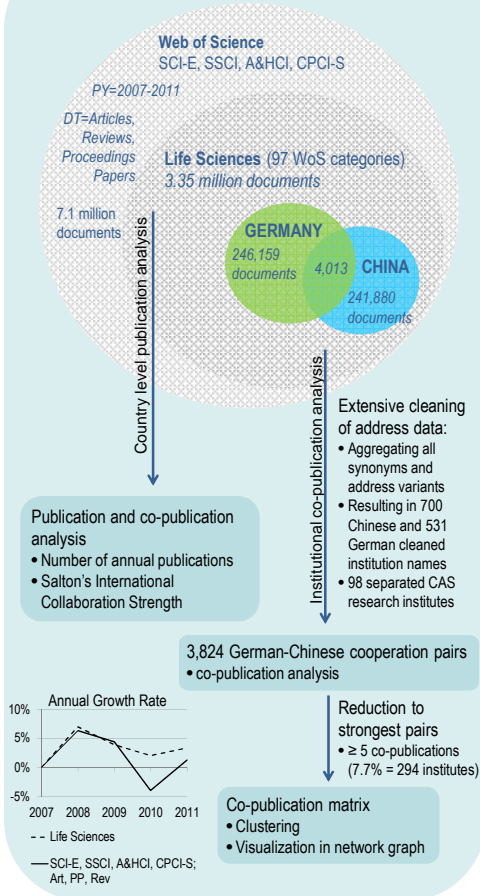
Co-publication analysis of German and Chinese institutions in the life sciences

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Introduction

Given China's exceptional growth, the German Federal Ministry of Education and Research (BMBF) is interested in intensifying scientific collaboration with China. To monitor the development of collaborations the BMBF has commissioned several bibliometric studies (e.g. Frietsch and Meng, 2010; Kroll, 2010; Scheidt et al., 2011). This study examines scientific cooperation in the life sciences on the basis of co-publications of German and Chinese institutions as an indicator of formal cooperation between them.

Database & Method



Conclusions

- China is an important cooperation partner in the life sciences for numerous countries, particularly the USA.
- Germany is in danger of falling behind in the global competition for the top Chinese institutional cooperation partners.
- The present study identified existing partnerships between German and Chinese institutions in the life sciences and investigated the structural conditions for German-Chinese cooperation in this field.

Results

Country-level publication and co-publication analysis

Figure 1:
Number of annual publications in the life sciences per country for the top 5 countries in 2011 (USA, Great Britain, Germany, Japan and China).

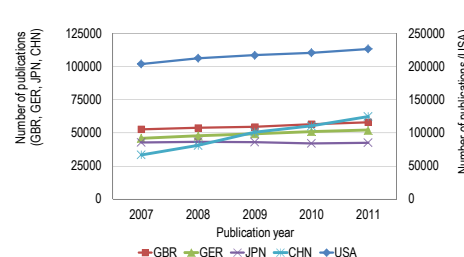
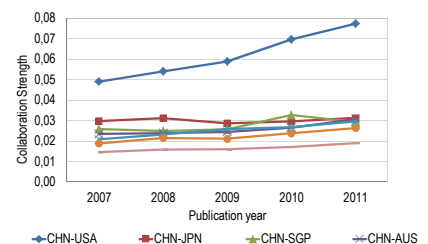


Figure 2:
Annual collaboration strength values (Salton's measure) from 2007 to 2011 between China and its seven leading cooperation partners in 2011.



Results

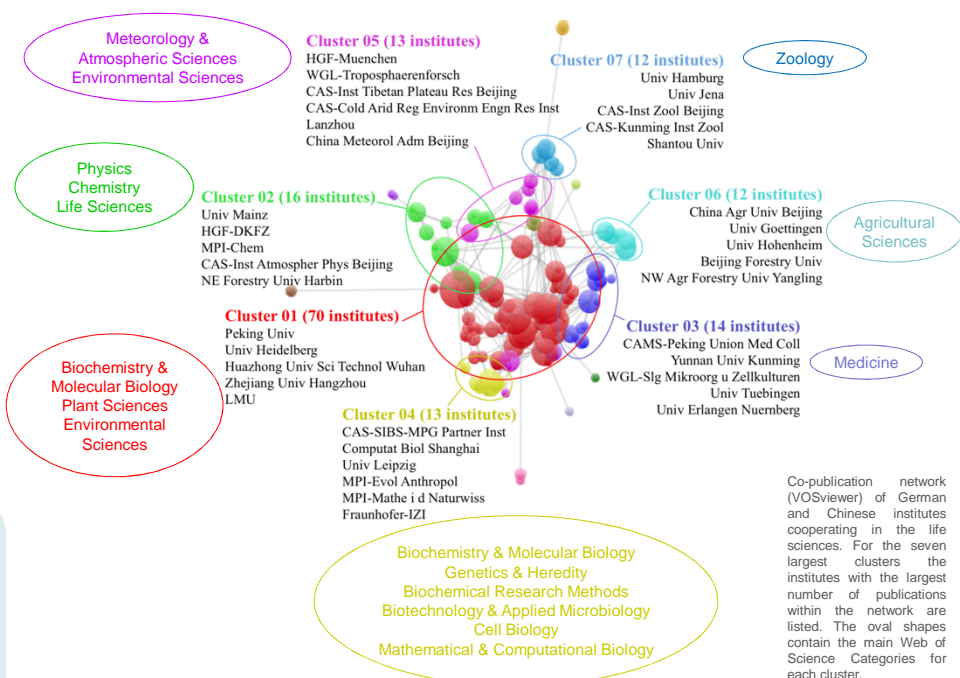
German-Chinese institutional-level co-publication analysis

China's partners in Germany	P_{CHN}	Germany's partners in China	P_{GER}
Univ Heidelberg	283	Peking Univ	300
LMU Muenchen	170	Zhejiang Univ Hangzhou	206
Charite Berlin	162	Huazhong Univ Sci Technol Wuhan	175
Univ Mainz	162	Chinese Univ Hong Kong	157
Tech Univ Muenchen	137	Capital Med Univ Beijing	142
Univ Kiel	119	Univ Hong Kong	141
Univ Dueseldorf	113	CAS-Graduate Univ Beijing	133
Univ Duisburg Essen	113	China Agr Univ Beijing	117
Univ Goettingen	108	Shanghai Jiao Tong Univ	116
Univ Hamburg	108	CAMS-Peking Union Med Coll	115

Table 1.
China's and Germany's ten most important co-publication partners in Germany respectively China with the corresponding number of co-publications (P_{CHN} , P_{GER}) in the life sciences from 2007 to 2011.

German institution	P	Chinese institution
Univ Heidelberg	82	Capital Med Univ Beijing
Univ Dueseldorf	44	Peking Univ
WGL-Troposphaerenforsch	44	Peking Univ
Univ Hohenheim	41	China Agr Univ Beijing
Univ Mainz	38	CAGS-Natl Res Ctr Geosanal Beijing
Univ Duisburg Essen	34	Huazhong Univ Sci Technol Wuhan
Univ Medical Center Schleswig-Holstein	30	Zhejiang Univ Hangzhou
Univ Kiel	28	Zhejiang Univ Hangzhou
WGL-Slg Mikroorg u Zellkulturen	27	Yunnan Univ Kunming
Univ Heidelberg	25	Huazhong Univ Sci Technol Wuhan

Table 2.
The 10 strongest German-Chinese co-publication partners together with the corresponding number of co-publications (P) in the life sciences from 2007 to 2011.



Co-publication network (VOSviewer) of German and Chinese institutions cooperating in the life sciences. For the seven largest clusters the institutes with the largest number of publications within the network are listed. The oval shapes contain the main Web of Science Categories for each cluster.

Selected References

- Frietsch, R. & Meng, Y. (2010). Indicator-based reporting on the Chinese innovation system 2010 – Life sciences in China. *Fraunhofer ISI Discussion Papers. Innovation Systems and Policy Analysis*, 26.
Kroll, H. (2010). Indicator-based reporting on the Chinese innovation system 2010 – The regional dimension of science and innovation in China. *Fraunhofer ISI Discussion Papers. Innovation Systems and Policy Analysis*, 25.
Scheidt, B., Haustein, S., Holzke, C. & Tunger, D. (2011). Bibliometric Analysis Asia-Pacific Research Area 2010. Commissioned by the International Bureau of the BMBF. Jülich: Forschungszentrum Jülich.
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